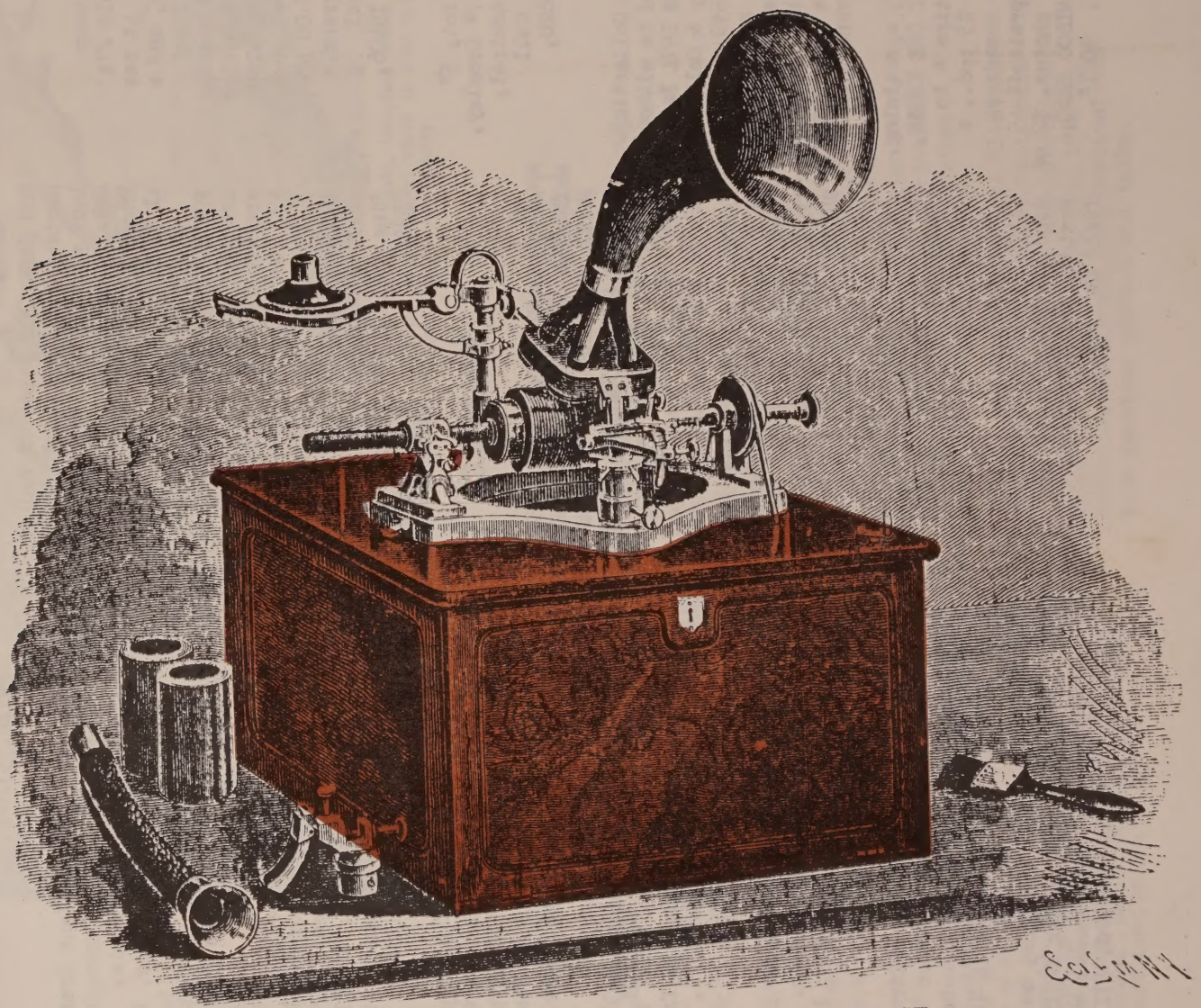
APRIL 1974

THE HORN SPEAKER



LIEUT. BETTINI'S NEW MICRO-GRAPHOPHONE.

Mr. James A. Vanlven Ayyle
4 Barnes Street
Waltham, Mass. 02154

7

VOL. III No. 4 APRIL 1974 Monthly except during July and August Price $3.00 yearly Single Issue 50¢ Publisher, Jim Cranshaw

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THE NEWSPAPER FOR
THE HOBBYIST OF VINTAGE
ELECTRONICS AND SOUND

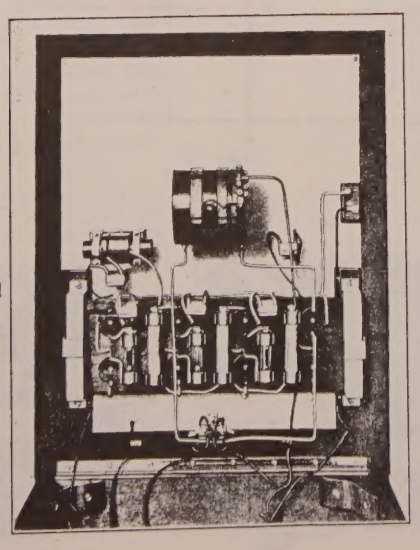
THE HORN SPEAKER

THE AERIOLA GRAND

BROADCASTING RECEIVER, MODEL RG

1922

Aeriola Grand offers all that may be desired of modern radio telephone broadcasting. Its use makes possible the radio dance, the radio concert, the radio party.



An Interior View of the Aeriola Grand Receiver

BAIRD *Television* 1930

Television receiver. Picture is three inches square and has a pale, pinkish glow.

EDITOR LETTERS

EDITOR'S MAILBAG

Dear Mr. Cranshaw:

I noticed in this issue of The Horn Speaker you are looking for people who restore items in the New York area. You may use my name, I restore radios, phonographs, etc.

Best Regards,
Richard M. Cane
103 Spring Street
Passaic, N. J.

Dear Jim:

I heartily congratulate you on the article that appeared in the HORN SPEAKER.

I once again need help. You see, I own an old Zenith (Model # 12S 568, Chassis # 12A1). It's a 3 band AC MODEL with 12 tubes.

I'd like the years the radio was produced and any other information about this radio available.

Sincerely,
Brent R. Miller
1730 Magdalene Way
Johnstown, Pa. 15905

EDITOR'S NOTE. . .O. K. Zenith experts.

Dear Jim:

Fine enclosed my check for $3.00. I sure don't want to miss any issues. I am slowly getting more sets for my collection. Was lucky and got hold of 2 Grebe 1921 sets that had never been sold. They are in excellent condition. Sure would like to find a bread board (A. K.) but they are so high.

Would like to visit again with you.

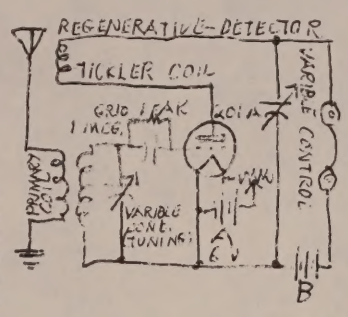
Yours,
W. S. Miller
2212 10 St.
Greeley, Col. 80631

Dear Sir:

I am writing to say that your paper, THE HORN SPEAKER is excellent and appreciate it if you would put this letter in your column "Editor's Mailbag." I am trying to get as much information about a one-tube radio set made by the A.C. Gilbert, which was located in New Haven, Conn. The set uses a UV-201-A Brass Base Tube with tip.

The Company made a Crystal Set in 1922, which is shown on page 71 of VINTAGE-RADIO. My guess is, this set followed the crystal set and was the forerunner and beginning of vacuum tube radio sets made by this Company.

The year this set was made is unknown, it has no patent number, the only clue is written in pencil, repaired by 911, located on the botton of the set. This set is possibly made by the factory and not a kit. If any of your readers have one of these one-tube-radio sets in their collection and have information such as a booklet or paper on it, I would appreciate if if they contact me THROUGH THE MAIL. Below is a Hand-Made Diagram of the set.



Any information on this set would be helpful.

Thank You,
Yours truly,
Edward P. Remski
43 Elm Street
Hicksville, N. Y. 11801

EDITOR'S NOTE. . .Some reader should know.

OPERATING INSTRUCTIONS FOR AERIOLA GRAND

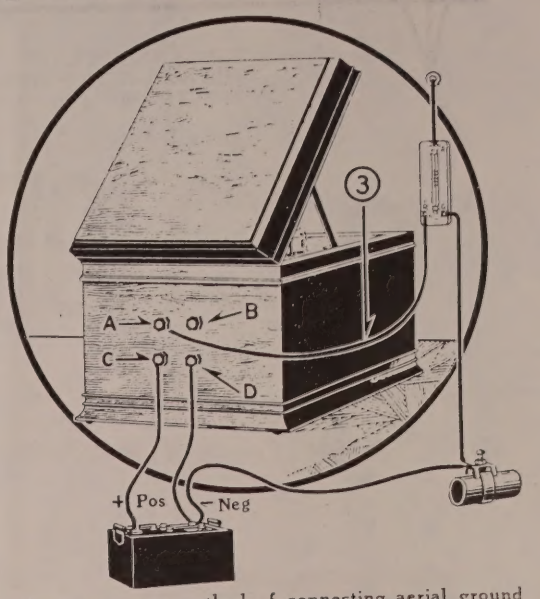
Numbers Correspond with Diagram

1. First, refer to accompanying sketch, then erect antenna and place protective device in position as described on page 56.

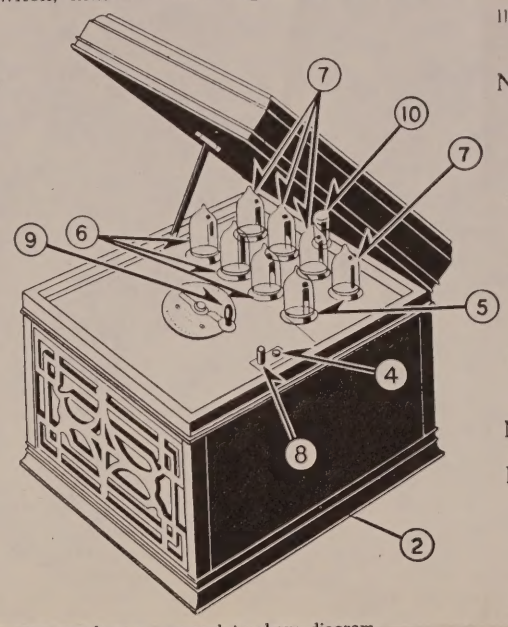
2. Place Aeriola Grand on table or stand and connect wire as shown herewith. The two wires connecting the Aeriola Grand to the protecting device should be separated by at least one foot. No. 18 rubber-covered wire may be used for connections. The rubber covering on each end should be carefully removed and the wire scraped with a knife until bright. The clean bare wire should then be placed under the terminal caps and these caps screwed tightly into position.

3. The wire from terminal R of the protective device connecting to terminal A of the Aeriola Grand should be removed and connected to terminal B when signals below 350 meters are desired.

4. Press the black button of the snap switch, thus disconnecting the battery.



Illustrating easy method of connecting aerial ground and filament storage battery.



Text numbers correspond to above diagram.

No. 5. Insert Model WR-21-D Aeriotron detector tube into the right hand front socket so that stamped trade mark is facing toward front of cabinet. Tube should be pressed firmly into socket.

No. 6. Insert three Model WR-21-A Aeriotron amplifier tubes in the remaining front sockets.

No. 7. Insert four Model WB-800 ballast tubes in rear sockets. Be sure that pins register with holes and press firmly into place.

No. 8. Press red button of snap switch (4) clear down. All Aeriotron filaments should now be lighted.

No. 9. Slowly rotate tuning handle over the scale until sound is loudest.

No. 10. This plug should be used to replace the front left-hand tube if the broadcasting station is so near as to make the sound abnormally loud.

Caution: Always press black button of snap switch (4) when not using instrument, as this conserves battery energy.

1922

AERIOTRON VACUUM TUBES

(Westinghouse Products)

Aeriotron Detector Tube. Model WR-21-D, for Use with Aeriola Grand Receiver

This tube is designed especially for use with the Aeriola Grand Receiver and when so used gives excellent receiving results. It is provided with a special base which prevents its being used in equipment with which it will not properly function. Aeriotron WR-21-D has a green tip marking and is designed for use as the detector tube in Aeriola Grands, and should be placed in the right-hand front receptacle.

The filament current for this tube is approximately .8 of an ampere and the drop across the filament is about 4 volts. A six volt storage battery with a rheostat or ballast tube control will, therefore, furnish satisfactory power for heating the filament.

Aeriotron Detector Renewal Tube, Model WR-21-D for Aeriola Grand Receiver . . . $7.50

Dimensions: 4½ in. x 1¼ in.
Weights: Net, 4 oz.; Shipping, 1 lb.

Aeriotron Amplifier Tube Model WR-21-A, for Use with Aeriola Grand Receiver

This is a specially designed and carefully selected tube for use in the amplifying circuits of the Aeriola Grand and may be placed in any of the three front receptacles from left to right.

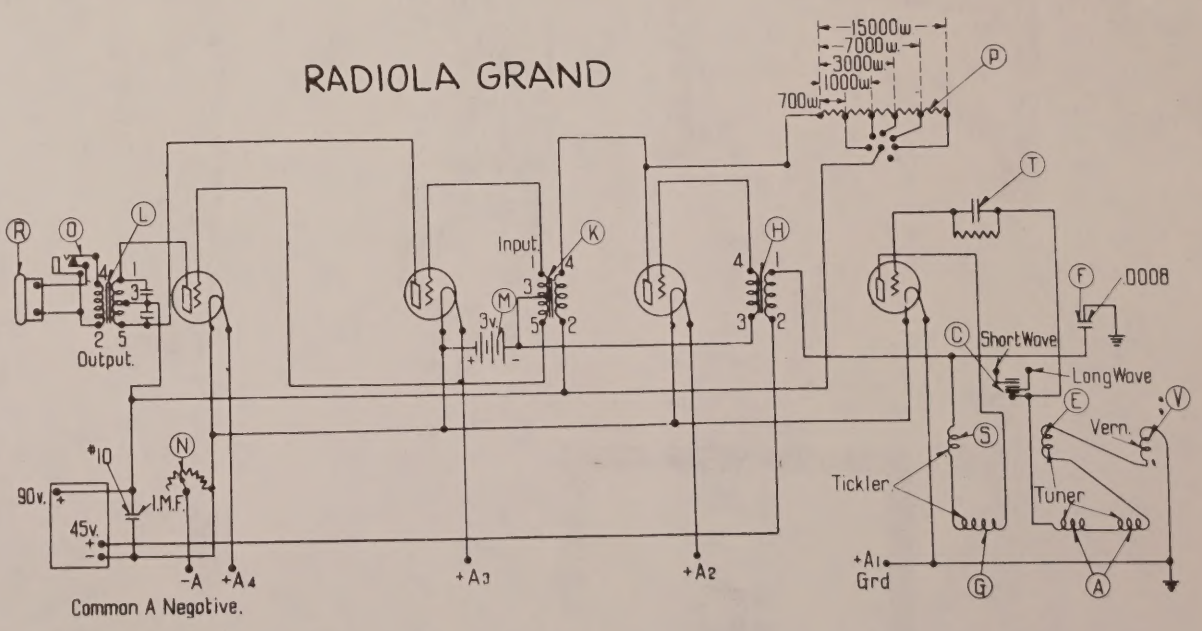
The filament current for this tube is approximately .8 of an ampere and the drop across the filament is about 4 volts. A six volt storage battery with a rheostat or ballast tube control will, therefore, furnish satisfactory power for heating the filament to its normal operating temperature.

The plate impedance of this tube is from 60,000 to 80,000 ohms, making it adaptable to resistance coupled amplification.

WR-21-A Amplifier Tube for Aeriola Grand Receiver $7.50

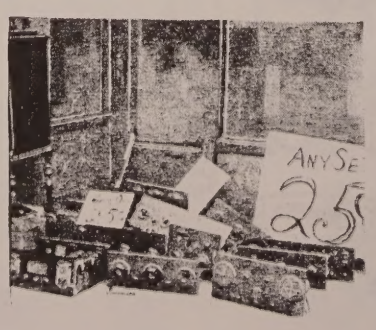
Dimensions: 4½ in. x 1¼ in.
Weights: Net, 4 oz.; Shipping, 1 lb.

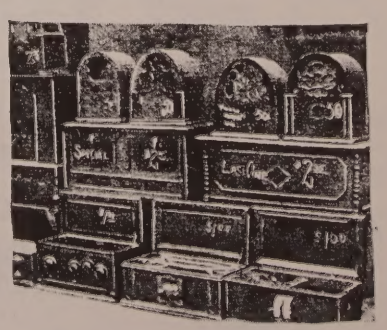
Complete Aeriola Grand Broadcasting Receiver, Model RG, and Mahogany Stand, 150-550 meters, with six volt Storage Battery, Model 6HR-9, Rectigon Battery Charger (6 ampere size), Receiving Antenna Equipment and Full Instructions $409.50
Aeriola Grand Broadcasting Receiver, as above, less Stand, Storage Battery, Charger and Receiving Antenna Equipment $325.00
With Stand $350.00
Mahogany Stand Only $35.00
Dimensions: Receiver Cabinet, 21 in. x 17½ in. x 14½ in. Stand, 31¾ in. high x 22¾ in. x 19¾ in.
Weights: Net 50 lbs.; Shipping 70 lbs., with Stand 140 lbs.



Cortlandt Street.
New York City

1932

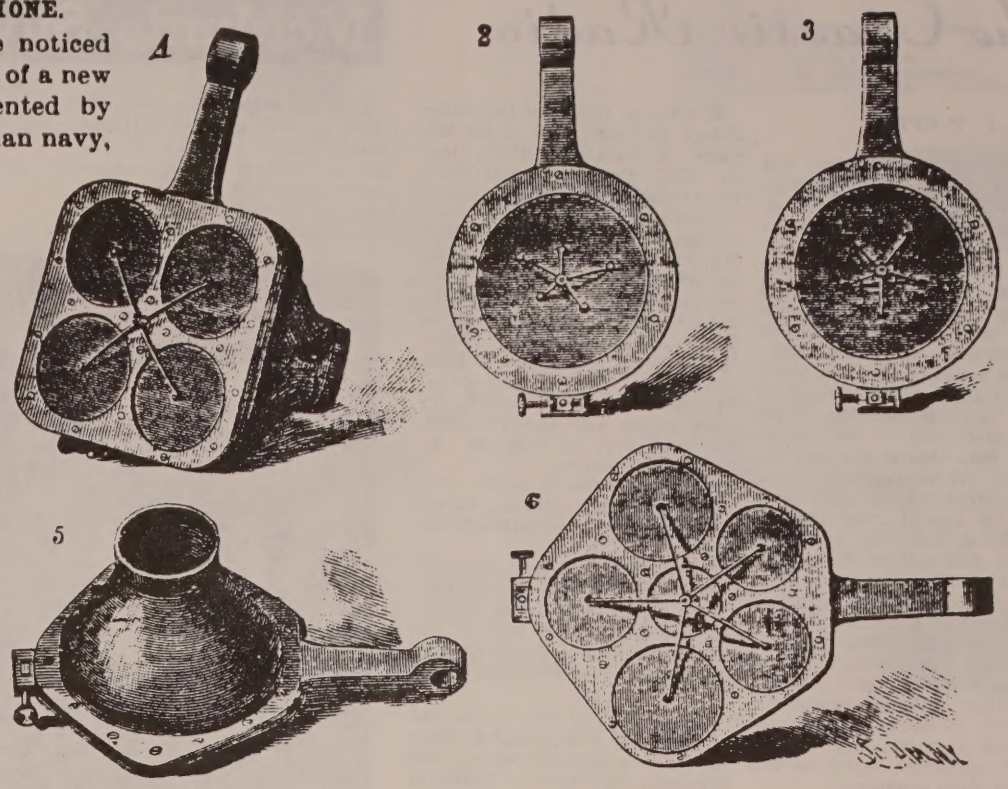




LIEUT. BETTINI'S NEW MICRO-GRAPHOPHONE.

Any reader of the daily papers must have noticed within the last few months frequent mention of a new instrument of the phonograph type, invented by Lieut. Gianni Bettini, an officer in the Italian navy, at present residing in this country. This gentleman conceived the idea of constructing a phonograph so as to be exceedingly sensitive to the different qualities of the tones of the human voice, and to reproduce those tones with the original qualities, so that the voice of the speaker could be easily recognized; and furthermore to produce uniformly good records without regard to the quality of the speaker's voice, also to secure a volume of sound which would compare favorably with that of a voice engaged in ordinary conversation, so that the words could be heard and understood without the necessity of employing stethoscopic ear tubes.

Every student of acoustics knows that vibrating membranes, strings, rods, columns of air, and thin plates of various kinds have active points and neutral points, and Lieut. Bettini has taken advantage of this fact in the construction of his instrument. He connects his recording stylus with the diaphragm at various points, to insure contact with one or more of the actively vibrating parts or ventres of the diaphragm, thus avoiding the points of rest or nodes where little or no vibration occurs.



VARIOUS DIAPHRAGMS USED IN BETTINI'S MICRO-GRAPHOPHONE.

Scientific American.

[APRIL 26, 1890.

This instrument, which has been named the micro-graphophone, is shown in perspective in the larger engraving, together with some of the accessories. The instrument proper is mounted upon the top of a case which contains an electric motor. In the frame of the instrument is journaled a shaft, which is screw-threaded upon one end and passes through a shear nut. Upon this shaft is mounted a metallic cylinder for receiving the record cylinder. The shaft is also provided with a pulley which receives motion from the electric motor in the base, through the medium of the belt. Upon a standard at the back of the record cylinder is mounted an angled arm which carries two sets of diaphragms, one for producing the record, the other for the reproduction of the speech. In the instrument as represented, the reproducing apparatus is in the position of use. The standard in front of the record cylinder is provided with vertical and lateral adjustments for causing the stylus of the reproducing apparatus to register with the record on the cylinder. The diaphragm cell, which is swung back out of the way, is the one employed for producing the record, and when so used it is swung into the position now occupied by the reproducing apparatus, and the flexible tube shown lying upon the table is used in connection with the cell.

At the side of the motor casing which supports the micro-graphophone are shown two record cylinders and a tool for turning off these cylinders. This tool takes the place of the adjusting apparatus on the standard at the front of the machine. In Figs. 1 to 5, inclusive, are shown various forms of diaphragm cells and diaphragms employed in connection with the rotating and adjusting apparatus of this instrument.

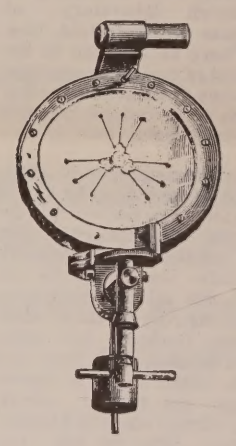
To the diaphragm, shown in Fig. 2, is attached a spider, having arms of different lengths attached to the vibrating parts of the diaphragm. These arms are inclined outwardly toward a point opposite the center of the diaphragm, at which point they are all secured to the recording stylus. This construction, as the record shows, has considerable advantage over that in which the stylus is attached directly to the center of the diaphragm.

In Fig. 3 is shown a reproducing diaphragm in the simplest form. In this case a spider having equal arms is attached to the under surface of the diaphragm, with its arms arranged on a circle concentric with that of the periphery of the diaphragm. These arms are inclined outwardly, and joined at the center to the reproducing stylus. The effect of this construction is to secure a greater amplitude of vibration in the diaphragm, and to reproduce faithfully all of the overtones which are so necessary to reproduce the exact quality or timbre of the sounds originally uttered into the recording apparatus.

A similar idea in a modified form is shown in Figs. 1 and 5, in which a number of diaphragms are used in the reproducing apparatus. These diaphragms are of different sizes, or of different tension, or both, so that they will respond to a greater range of sounds. The small diaphragms are connected by arms to a central reproducing stylus. Each diaphragm has its particular range of sounds, while all are more or less affected by the same sound. As a consequence of this arrangement, Lieut. Bettini is enabled to produce a great volume of sound without destroying its timbre or peculiar quality. This instrument can be heard distinctly and understood in any part of an ordinary room. The instrument is equally susceptible to musical sounds, and singing, instrumental music, and whistling are brought out in a very satisfactory manner.

These sketches were made at Lieut. Gianni Bettini's laboratory at 110 Fifth Avenue, New York City.

BETTINI



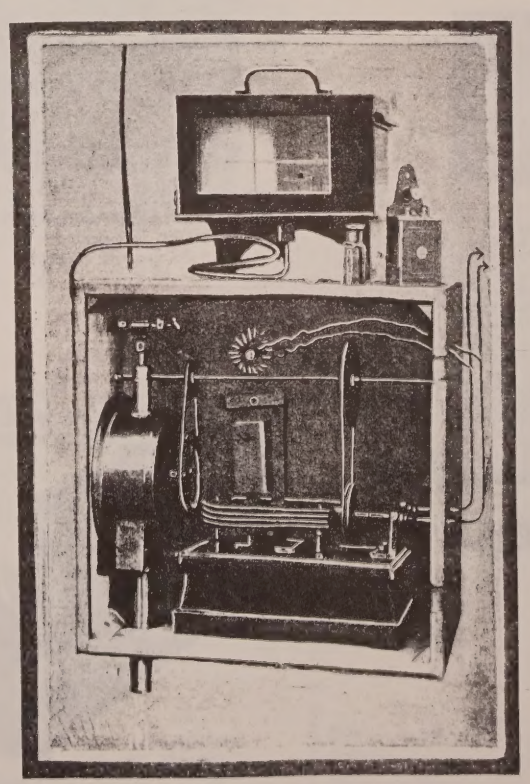
Electric Light from Spigot

M. COLARDEAU, former professor of Physics at the Lycée Ronlin and a scientist of European reputation, has just explained to the Academie des Sciences of Paris how electric light may be obtained from the kitchen tap. By a simple calculation, the eminent physicist showed how an ordinary water tap turned to allow the flow of one quart of water per second would furnish the equivalent of one horse power, provided the source of the water supply was situated at 75 meters above the level of the tap. By mounting a turbine on the tap and connecting it with a dynamo, sufficient current is obtained to light one 500 candle-power lamp and 20 other lamps varying from 10 to 50 candle-power. Every time the tap was turned on for domestic uses, the miniature electric station would work and accumulate in a storage battery the otherwise wasted energy of water. The professor has installed such a system in his own home. This is the water tap power plant which has set the scientific world talking about the utilization of wasted energy.

In his house he uses no other installation, and it never gives out and never costs him anything. In the country places M. Colardeau would use the wind to pump water up to the required heights, and so transfer the wind energy into water energy, which would be transformed into electric energy.

"When we've done that," he concluded, "we needn't any longer worry about the exhaustion of our coal stocks."

Wind power was wasted wholesale, but even more culpable was the waste of water-power within one's own house.



The Accompanying Photograph Shows the Actual Spigot Power Plant Employed by the French Scientist, M. Colardeau. Every Time the Spigot Is Operated, the Water Discharges Thru the Water Motor Shown at the Extreme Left of the Cabinet, Which Motor Is Geared by Belts and Shafts to the Magneto Dynamo Shown in the Lower Center. The Energy from the Small Dynamo Passes into a Storage Battery Where It Is Accumulated, and It Is Said that M. Colardeau Has Supplied His Own Electric Lights from This Source Continuously Without Having Resource to the Central Lighting Station.

"The force of every kitchen and bathroom tap is wasted," he declared, and he put forward a scheme which he believes can be made practicable to utilize the force from the water that runs from every kitchen tap, which Paris derives from a reservoir 200 feet above the city.

Science and Invention for May, 1921

The Classic Radio

BY J. W. F. PUETT

Starting in the twenties and continuing through the early forties, many an old-time radio man can remember those exciting articles written by McMurdo Silver. Today, a few radio collectors are fortunate enough to have a gleaming chrome Masterpiece tucked away in their hoard of early wireless and home entertainment antiquity. Even now, there are still a few of those kings of the air awaiting their fate in the dusty attics and cellars of old homes. But, what of the man who designed and manufactured these classic Masterpieces that once graced the formal living room of the affluent few who would be satisfied with nothing short of the very best? Who was this well-known electronic trailblazer whose articles were published in such leading periodicals as Radio News, Short Wave Craft, Q. S. T., Radio Craft and others too numerous to mention? Although detailed information on McMurdo Silver is somewhat obscure; herewith, a short biographical sketch on this brilliant radio engineer:

McMurdo Silver was born March 15, 1903, in Geneva, New York. He was the son of John Archer Silver, a professor of Ancient History at Hobart College.

His interest in radio started at the age of eight from the story of the Titanic disaster. By 1912, he could be found winding coils on spools and making "spark coils" and by 1913, he was co-operator of amateur station 8VM. In 1916 he moved to New York City where he attended school.

His first employment was in a Wall Street brokerage house, but, by 1919, he was working in the research laboratory of Westinghouse at Bloomfield, New Jersey. There he assisted in the development of one of the smallest vacuum tubes manufactured at that time which measured one-half inch long by three-eights inch in diameter.

Leaving Westinghouse in 1920, at the age of seventeen, he took a night engineering course in New York. From that time until 1922, he was employed by Haynes-Griffin Radio Service where he developed one of the first practical superhetrodyne radio kits. (The Haynes Cockaday and Radio Broadcast Supers).

In 1924, McMurdo Silver moved to Chicago and started Silver Marshall, Inc., which became Hallicrafters after he left the company.

It was in 1932 that he established his laboratory under the name of McMurdo Silver, Inc. By 1933, the first Masterpiece was produced with fifteen tubes and two brass-plated chassies. In November of 1933, the chrome-plated Masterpiece II was advertised as the official general-coverage receiver for the second Byrd Antartic Expedition. The Masterpiece III was introduced in 1934, followed by the IV in 1935, the V in 1936, and finally, the Masterpiece VI in 1937. From 1932 to 1938, several lesser sets were produced, but none were so grand as the Masterpiece series.

McMurdo Silver's hobby was collecting Colt revolvers. He had one of the finest collections in the world at one time.

In November of 1938, the company folded and the January 1939 issue of the Scott News carried an enclosed letter under the signature of E. H. Scott announcing the purchase of McMurdo Silver, Inc.

During World War II, he was employed by Lear Aviation. After the war, he again formed his own company, this time in Hartford, Connecticut.

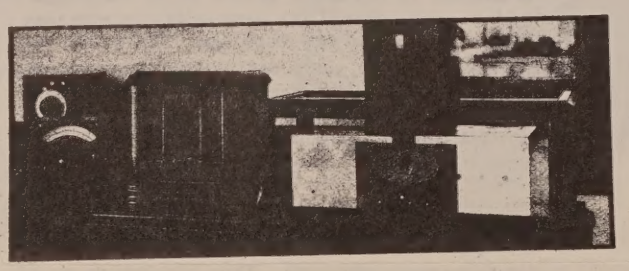
McMurdo Silver

McMurdo Silver allegedly committed suicide in 1948. All that remains today is a few of his beautiful classic radios and his numerous articles which were published throughout the golden age of radio.

1931

Mc. Murdo Silver

SILVER MARSHALL RADIO 1930 PLAYS FOR 8760 HOURS . . . AND STILL GOING!



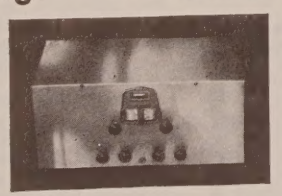
Aviation hasn't been setting the only endurance records in Chicago this summer—for on July 10th at 5 P.M. a Silver-Marshall Model 30A chassis had played continuously, twenty-four hours a day, for one year—8760 hours! And it's still going; not a single part being replaced in the whole year with the exception of two tubes.

The set was originally started not for a record but to prove a power-pack argument between M. C. Lanmon, the testing chief, and McMurdo Silver, President.

The receiver is on exhibition at Silver-Marshall's main office, 6401 West 65th Street, Chicago.

1933 ad

Radio designed especially for ADMIRAL BYRD *actually* brings in the entire World!



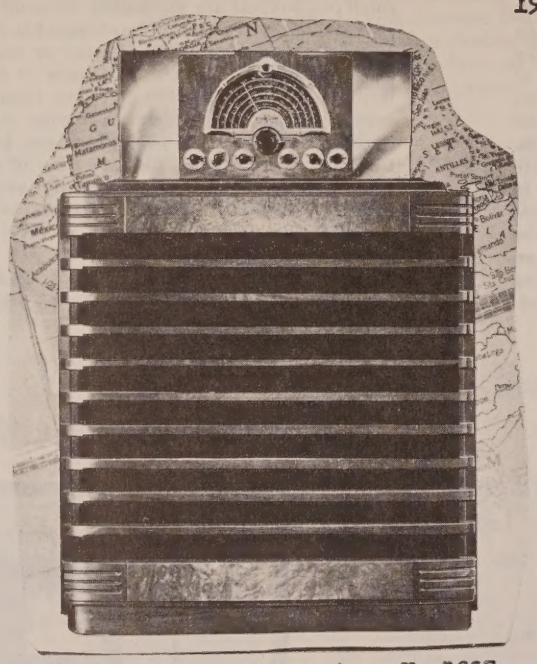
Tuning from 10 meters to 570 meters—all with one single dial, McMurdo Silver's Masterpiece II, will bring you enjoyable, loud speaker reception of music and voice from points 12,500 miles away in any direction. This super instrument was designed especially for the Byrd Antarctic Expedition from specifications developed by McMurdo Silver, with the engineering department of a great eastern University acting as the admiral's radio advisors. Each one of the duplicates now being made available for private home use is laboratory built and is sold with an unconditional guarantee of complete satisfaction or money instantly refunded. Free Book completely describes this receiver and illustrates the custom-built consoles made especially for it. Write for literature.

One of the many distinctive custom-built consoles designed to house MASTERPIECE II. This one also contains a phonograph.

McMURDO SILVER, Inc.
1731 Belmont Ave., Chicago, U.S.A.

McMurdo Silver's
MASTERPIECE II

1934 ad

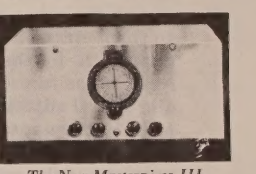


McMurdo Silver Masterpiece V, 1937

You can really hear the entire World with custom-built

MASTERPIECE III

The choice of experts and critical fans everywhere for difficult reception feats. (*See trial offer below*)



The New Masterpiece III

MASTERPIECE III, still more powerful, more sensitive than Masterpiece II, brings thrilling daily surprises in the form of clear, enjoyable reception under favorable conditions from foreign and domestic stations you never dreamed of hearing. Range 13-570 meters. Read what Bing Crosby, Richard Arlen and Paramount Sound Engineers say about Masterpiece III.

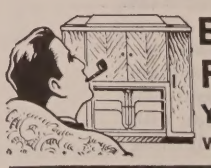
• • • •

"Bing Crosby and Dick Arlen feel you have engineered most perfect sets yet. Preliminary tests brought in 102 broadcast stations, also 3 in Japan. Short-wave side produced France, Germany, Buenos Aires, England, Honolulu, Russia, and Canadian, Mexican and American short-wave stations, which is phenomenal receiving on this coast. Crosby and Arlen can't wait to get going Monday on their tuning contest. For sensitivity, ease of operation, noise suppression and selectivity, sets are unsurpassed."—John Feere Miles, Paramount Studio.

10-DAY TRIAL You can prove Masterpiece III to yourself without risking a cent. 10 full days trial in your own home. Your money back instantly . . . if you're not satisfied. Write today.

McMURDO SILVER, INC.
3353 N. Paulina Street Chicago, U. S. A.

1935 ad



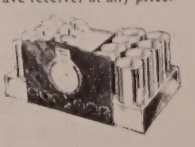
Explore New Frontiers *from* **YOUR EASY CHAIR WITH A CUSTOM-BUILT**

SILVER MASTERPIECE IV

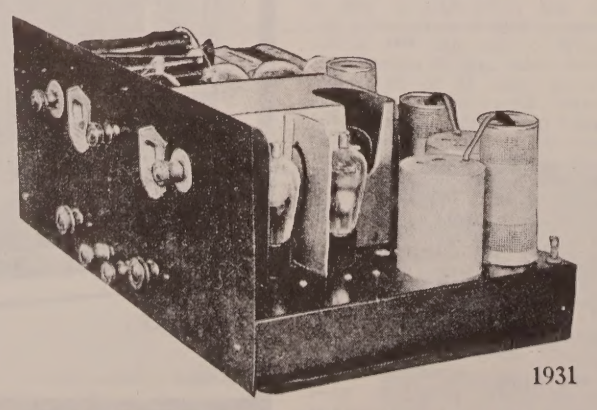
ALL-WAVE WORLD-WIDE *The "Rolls Royce" of* **RADIO**

Over the highest mountains . . . across the seven seas . . . the world's finest and most interesting radio entertainment can be yours to enjoy. Turn the dial of your Silver MASTERPIECE IV, and bring in programs the world over with life-like fidelity and thrilling clarity unapproached by the conventional radio set.

Custom-designed, custom-built and tested in the McMurdo Silver laboratories, containing no less than 25 entirely new engineering advancements, the MASTERPIECE IV will prove its superiority in comparison with any all-wave receiver at any price.



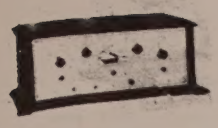
Limitations of distance, difficulties of reproduction, fading, seldom exist for the owner of a MASTERPIECE IV. Without obligation, the coupon will bring you the completely descriptive "Blue Book," proofs of performance, details of 10-DAY TRIAL Offer and 5-YEAR GUARANTEE.



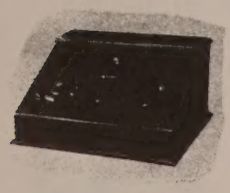
1931

Silver-Marshall 726-SW short-wave receiver.

J. W. F. Puett publishes a quarterly newsletter for collectors, who are interested in classic radios. He welcomes all correspondence about classics. J. W. F. Puett, 3008 Abston Drive, Mesquite, Texas 75149.



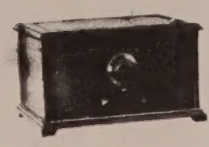
TRADE NAME: Silverset Radio Receiver.
TYPE: Two stages of tuned radio frequency detector and two stages of audio frequency amplification.
TUBES: Five.
BATTERIES: Not furnished.
CONTROLS: Three.
AERIAL: Indoor, outdoor.
PRICE: $125 without accessories.
MANUFACTURER'S NAME: Silverset Radio Co.



TRADE NAME: "Sleeper Monotrol."
MODEL: 54.
TYPE: Grimes inverse duplex circuit.
TUBES: Four.
BATTERIES: Storage or dry cells.
CONTROLS: One.
AERIAL: Indoor, outdoor or loop.
PRICE: $130.00 without accessories.
MANUFACTURER'S NAME: Sleeper Radio Corp.

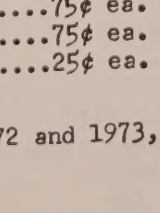
TRADE NAME: "Somerset Stratford."
MODEL: 4-A.
TYPE: One stage of tuned radio frequency amplification, detector and two stages of audio frequency amplification.
TUBES: Four.
BATTERIES: None furnished; may be self-contained in cabinet.
CONTROLS: Two.
AERIAL: Indoor or outdoor.
PRICE: $65.00 without accessories.
MANUFACTURER'S NAME: National Airphone Corp.

TRADE NAME: "Somerset Shelbourne."
MODEL: 4-B.
TYPE: One-stage tuned radio frequency amplification, detector and two stages of audio.
TUBES: Four.
BATTERIES: Full-size 6-volt storage "A" battery; can be self-contained in cabinet.
CONTROLS: One.
AERIAL: Indoor or outdoor.
PRICE: $85.00 without accessories.
MANUFACTURER'S NAME: National Airphone Corp.



TRADE NAME: "Somerset Standish."
MODEL: 4-C.
TYPE: One-stage tuned radio frequency amplification, detector and two stages of audio.
TUBES: Four.
BATTERIES: Full-size 6-volt storage "A" battery; can be self-contained in cabinet.
CONTROLS: One.
AERIAL: Outdoor or indoor.
PRICE: $150.00 including built-in loud speaker.
MANUFACTURER'S NAME: National Airphone Corp.

TRADE NAME: "Sonoradio."
MODEL: 241, built-in with phonograph.
TYPE: Two radio, detector, and two audio.
TUBES: Five 199 type.
BATTERIES: "A"-3 dry cells, "B"-90 volts.
CONTROLS: Two.
AERIAL: Outdoor or indoor.
PRICE: $475.00 complete with phonograph, but without radio accessories.
MANUFACTURER'S NAME: Sonora Phonograph Company, Inc.



TRADE NAME: "Sonoradio."
MODEL: 242, built-in phonograph.
TYPE: Neutrodyne, reflex radio frequency.
TUBES: Three UV-199.
BATTERIES: "A"-3 dry cells, "B"-90 volts.
CONTROLS: Two.
AERIAL: Inside or outside.
PRICE: $235.00 without accessories.
MANUFACTURER'S NAME: Sonora Phonograph Company, Inc.

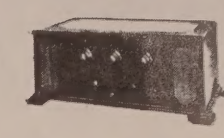
TRADE NAME: "Splitdorf."
MODEL: R-100.
TYPE: Tuned radio frequency.
TUBES: Five.
BATTERIES: None Furnished.
CONTROLS: Three.
AERIAL: Inside or outside.
PRICE: $150.00 without accessories.
MANUFACTURER'S NAME: Splitdorf Electrical Company.

TRADE NAME: "Splitdorf."
MODEL: R-102.
TYPE: Tuned radio frequency with built-in loud speaker.
TUBES: Five.
BATTERIES: None furnished.
CONTROLS: Three.
AERIAL: Inside or outside.
PRICE: $235.00 without accessories.
MANUFACTURER'S NAME: Splitdorf Electrical Company.

TRADE NAME: "Standardyne Receiver"
TYPE: Two tuned radio, detector and two audio.
TUBES: Five.
BATTERIES: Dry cell or storage.
CONTROLS: Three.
AERIAL: Outdoor or indoor.
PRICE: $60.00 without accessories.
MANUFACTURER'S NAME: Standard Radio Corp.

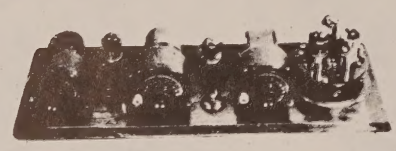
TRADE NAME: Stromberg-Carlson.
TYPE: Hazeltine neutrodyne.
MODEL: No. 1A.
TUBES: Five.
BATTERIES: Not furnished.
CONTROLS: Three.
AERIAL: Indoor, outdoor.
PRICE: $180 with headset; no other accessories.
MANUFACTURER'S NAME: Stromberg-Carlson Mfg. Co.

TRADE NAME: "Summerset Mars."
MODEL: 5-A.
TYPE: Two stages of tuned audio frequency amplification, detector and two stages of audio.
TUBES: Five.
BATTERIES: 6-volt "A" storage can be self-contained in cabinet; "B," 60 to 90 volts, can be self-contained in cabinet.
CONTROLS: Three.
AERIAL: Outdoor or indoor.
PRICE: $75.00 without accessories.
MANUFACTURER'S NAME: National Airphone Corp.



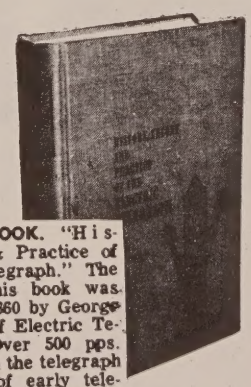
Vintage Radio

NEW 1973 VINTAGE RADIO
Enthusiastic readers bought out our first edition. Now you can send for the fascinating new edition of this pictorial history of wireless and radio, 1887-1929. It's the collector's bible, with 263 pages and over 1,000 illustrations. Available in handbook or deluxe hard cover.



McMAHON'S 1921-1932 GUIDE
Be an instant expert. Lists 9,000 radio models by maker and year introduced, with original price, description and circuit type. A must for every radio buff or antique collector.

Vintage Radio, handbook	$4.95
Vintage Radio, hard cover	6.95
McMahon's 1921-32 Radio Guide	3.95



TELEGRAPH BOOK. "History, Theory & Practice of the Electric Telegraph." The orig. copy of this book was first printed in 1860 by George Prescott, Supt. of Electric Telegraph lines. Over 500 pps. of information on the telegraph & many illus. of early telegraph equipment. Reprints of this book $7.50 ea., ppd.

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From Edison to Stereo
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Ever since 1877 when Thomas Edison invented a curious tin-foil apparatus to reproduce sound, the phonograph has provided entertainment and the delights of music for millions of listeners.

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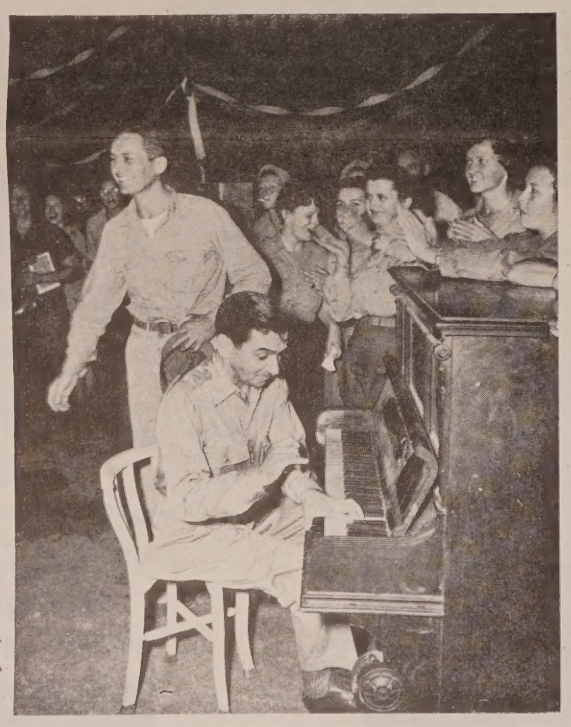
WORLD WAR 11 RADIO

Jack Benny and Ingrid Bergman before the "mike" in Gmund, Germany

Photos by U. S. Army Signal Corps

Al Jolson entertaining soldiers at a hospital in Palermo, Sicily



Irving Berlin plays for WACs in Hollandia, Dutch New Guinea

THE ELUSIVE JONES SET

Bob Edwards of Deale, Maryland has been buying and repairing old radios since 1931. But he qualifies as a collector rather than a dealer. "I've only sold one (old) radio and that was to a collector," he stated.

Bob is searching for information to restore a Joseph W. Jones six-tube battery operated radio that he managed to "win" at an auction. He believes it to be the J-175 but he is not sure. He needs help to determine resistor values for proper voltage, etc.

Bob can be reached by writing to: Robert L. Edwards, Jr., P. O. Box 88, Deale, Maryland 20751.

EVENING CAPITAL PEOPLE

Bob Edwards of Deale, Maryland stands at the controls of his Radiola Senior. He built the power supply, which is used to power the receiver. Indeed, a good looking Western Electric Horn Speaker.

This Room Is Equipped With

Edison Electric Light.

Do not attempt to light with match. Simply turn key on wall by the door.

The use of Electricity for lighting is in no way harmful to health, nor does it affect the soundness of sleep.

Now you can have an exact 1890 EDISON ELECTRIC LIGHT PLAQUE REPLICA as used when electric lights were first installed anywhere. . .You can MOUNT and DISPLAY this PLAQUE on any SURFACE because of its ADHESIVE BACK. . .just remove paper from back and mount as desired. . .All design and lettering are ENGRAVED and seated in black. . .A special process added to the GOLD-IN-COLOR Aluminum plate makes it impossible to CORRODE or OXIDIZE. . .Unlimited uses and ideas in the Antique field, makes an EYE-CATCHING DISPLAY, HUMOROUS, but serious. . . A fine gift for any occasion... ORDER NOW, ONLY $4.95 Postpaid. . . MIDCO HS10 BOX 15370, LONG BEACH, CA 90815.

on the Air

Many people, who are not collectors, want The Horn Speaker to price items for sale. The policy of the newspaper is not to establish prices. We can give only a range of prices and they are wide.

Needless to say, sellers want high prices, buyers want low prices. The Horn Speaker feels that pricing for the benefit of the collector should be free of any influence of any kind of authority. Fortunately, the clubs, associations, societies, etc. have not established prices.

At the Foothill College Electronic Museum in Los Altos Hills, California members of the Antique Wireless Association will meet on April 27, 1974 for exhibits, a swap and sale session, old time receiver contest and talks.

MART

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31-35	1.95	3.40	4.80	17.80
36-40	2.25	3.90	5.50	20.35
41-45	2.50	4.40	6.15	22.95
46-50	2.75	4.80	6.85	25.45
51-55	3.05	5.30	7.55	28.00
56-60	3.30	5.80	8.25	30.55
61-65	3.65	6.30	8.95	33.05
66-70	3.90	6.75	9.65	35.60
71-75	4.15	7.25	10.30	38.20
76-80	4.45	7.75	11.00	40.75
81-85	4.70	8.20	11.70	43.25
86-90	5.00	8.70	12.35	45.80
91-95	5.25	9.20	13.05	48.40
96-100	5.50	9.65	13.75	50.90
101-110 ..	6.05	10.65	15.15	56.00
111-120 ..	6.60	11.55	16.50	61.00
121-130 ..	7.20	12.55	17.85	66.20
131-140 ..	7.75	13.50	19.25	71.25
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Photo ads $2.00 extra.

MART

MISC.

WILL REPAIR, restore, refinish, renew or rebuild your old radio. Buy, sell or trade tubes, parts and radios. Bob Lucas, 9014 Mahoning, Houston TX 77036.

PROFESSIONAL CW operators, retired or active, commercial, Military, Gov't, police, etc., invited to join Society of Wireless Pioneers, W7GAQ/6, Box 530, Santa Rosa, CA 95402.

PHONOGRAPH RESTORING, reproducer repairing a specialty. Alan Cobble, 826-9184 for Dallas area residents.

FOR SALE OR TRADE

FOR SALE: Large number of crystal sets in like new condition. (Most have never been used) Several hundred good early vacuum tubes including WD-11, UV 200, UV 201. Also many old broadcast receivers, speakers, etc. Crystal sets are the "WACCO" Gem, W. A. Cheever Co., Providence, R. I., $35. each. The WD-11's are black base with good emission and the other two types are clear glass brass base 1 amp. filaments and have never been used and are in original cartons. Any of the above tubes are $25. apiece or in lots of 10 for $225. Hans R. Hermann, 1253 Main St., E. Hartford, Conn. 06108.

ANTIQUE-Add extra class to your collection with a 50 year old J7A telegraph key! Dated 1923, it has a brass dome and keying arm, and a large Navy type knob-Flame Proof type. New, but not perfect because of years of storage in the Brooklyn Navy Yard. $12.95 pp. Also, W. U. Tele Co. Main line sounders, good, used, type 17A and 15B, $25.00 ppd, each. Buy-Trade-Sell Telegraph, Radios, Books--what have you? Walt's Emporium, P. O. Box 19406, Dallas TX 75219.

ANTIQUE TELEVISIONS: 3" Pilot, 5" Andera, 7" Hallicraftors, 7" Crosley, 7" Philco, 7" Motorola, 7" Admiral, 7" Transvision, many more. Call Charles Seidel, (805) 962 3620, Santa Barbara CA.

WHO'S WHO of Radios/Wireless Collecting. No collector or dealer should be without or miss being in MIDCO'S NEW 1974 Radio/Wireless Antiquer's Directory & Collectors Guide. NOW AVAILABLE, over 650 names/addresses, call letters, phone numbers of buyers, traders, sellers, museums, clubs, associations, societies, collections, old radio reprints, experimenters projects & Hints for the beginner or advanced collector.
SERVICES OFFERED: Repairing, appraising, restoring & friendship. ONLY ONE KNOWN, experts keep at their fingertips & in autos when traveling. Order $5 ppd., a little more than a hamburger nowadays. Got an old radio you want appraised? Send all details, Model No., photos. $2 ea. plus return postage. Order MIDCO HS20, Box 15370, Long Beach, Calif. 90815.

FOR SALE OR TRADE

FOR SALE OR TRADE: Large collection of early receivers (1918-1926), tubes, literature, etc. For 13 page list send one dollar to cover printing and mailing costs. Refunded with $15.00 purchase. John Brooker, 730 Randolph Road, Mogadore, Ohio, 44260 Phone; 216 628-3691.

FOR SALE: Radiola 18, excellent $40. Scott Phantom, no case, excellent operating condition $50.00. Grebe Syncrophase $75. WANTED: Utah enclosed speakers. Bill Wiley, 282 Highland, Wadsworth, Ohio 44281.

FOR SALE: 6 old Radios; 2 horns; Western Elect. Amplifier; Cobra arm and turntable & misc. Bid. Charles Solgas, 821 Duchow Way, Folsom CA 95630.

FOR SALE: 7 page illustrated list of horn phonographs, grind organs, toys, some radios, etc. $2.00 refundible with order. S. Leonard, 60 E 12th St. Apt. 6E, New York, N. Y. 10003

REPLACE BULKY BATTERIES and noisy eliminators with solid state battery Radio Power converter. Send SASE - your needs. Gary Fischer, 6378 Pierce St., N. E., Fridley, Minn. 55432.

HAVE A CABINET in mint condition for a Bosch Amborola (pp 132 V. R.) need panel & dials complete set or will sell. H. Kramer, 5413 Rose Ave., Orlando, FL 32810.

RESTORE, REPAIR, buy, sell, trade antique radios, phonos, etc., 9 miles from N. Y. City. Ronald F. Hill, 386 Roosevelt Ave., Lyndhurst, N. J. 07071.

FOR SALE: All kinds of radios, parts itc. No list, if through look me up. Pat Cutini, 969 Genesee St. Buffalo, N. Y. Open Thursday, Friday, and Saturday 11 AM to 5 PM.

FOR SALE: Rubber stamp with your name and address plus AK Radio and speaker $3.00 pp. James Fred, P. O. 42, Rossville IN. 46065.

1921-1931 schematics and service data where available $2.00. Cecil Bounds, Pine Springs Rte., Carlsbad, N. M. 88220.

WANTED

WANT ATWATER KENTS ANY MODEL FROM 7 THROUGH 42: CROSLEYS ANY BATTERY MODEL AND GEMBOX AND SIMULAR ELECTRICS: ATWATER KENT SPEAKERS: ANY TYPE HORN SPEAKERS: WD11, 01A, 201A, ETC. TUBES. DESCRIBE & PRICE. YOUNG, 11 WILLOW COURT, TOTOWA, N. J. 07512.

WANTED: pre-1940 television literature. Will buy or trade from my collection of radio books; 1902-40. H. Layer, AV-SFSU, 1600 Holloway, San Francisco, CA. 94132.

WANTED: RADIO NEWS 1927-28 AND PRIOR TO 1923. CQ 1945-46. "RADIO" 1927-28, 1930-33 & PRIOR TO 1923. R. McNeill, Box 472, Yorkton, Sask., CANADA,S3N 2W4.

WANTED: 01A and 45 tubes. New or good used, any quantity. William L. Poston, 3212 Peachtree Ct., Bakersfield CA 93301.

WANTED

WANTED TO BUY: Ghirardi Radio Trouble Shooters Handbook, need several copies. Also need early date RCA, Sylvania etc. Tube manuels. State price and condition in first correspondance. Wm. Poston, 3212 Peachtree Ct., Bakersfield CA 93301.

WANTED: "Popular Radio" magazines for the year of 1922 and 1923; "Radio News" magazine for 1925 and earlier years: RCA Horn Speaker Model UZ1320 and UZ1325: Wiring B/P for Zenith 4R. Albert Warren, Box 279, Church St., Waverly PA 18471.

WANTED: Allen D. Cardwell Co., Variocouplers, Radio Receivers, Headsets, Transformers, Microphones. Also old Cardwell Military Equipment, Telegraph Keys, Sounders, National Company one tube radios. Cardwell Condenser Corp;, 80 E. Montauk Highway, Lindenhunst LI., N. Y. 11757.

WANTED: AK instruction books, Volumes 2 and 4, I'm also interested in other Manuals and literature. Can supply copys of Schematics from Rider 1 and a few others for 50¢ each plus large SASE. Alvin Heckard, Rd. 1 Box 88, Lewistown PA 17044.

EARLY DATE RADIO TEST EQUIPMENT WANTED, SUPREME, WESTON, JEWEL, ETC. WITH INSTRUCTION MANUAL. GIVE COMPLETE DESCRIPTION, MODEL NUMBER AND PRICE. William L. Poston, 3212 Peachtree Ct., Bakersfield CA 93301.

WANTED: Early Radio/Wireless Sets, Tubes, Book, Magazines and Associated items. Western Electric Telephone and Audio Equipment. Will Nangle, 761 No. 29th St., Milwaukee, Wisc. 53208.

WANTED: Atwater Kent Breadboards, "M" and "G" horns, phono pickup, All original literature. Music Master receivers, horns, V and VIII speakers, headphones, literature. Harry R. Katz, 415 So. Tenth St., Phila. PA 19147.

WANTED: Power Transformer part #D-53X174-F, for Corondo Radio, power transformer part #25B15430, for Motorola Radio. C. Elmer Nelson, 824 S. Pleasant St., Princeton, Ill. 61356.

WANTED: Philmore battery & electric sets. Also, Selective and Blackbird models. Quote price in first letter. William Hemrick, Route 1, Terra Alta, West Virginia 26764.

WANTED: Old radio books, catalogs, Gernsback manuals, Early test equipment. Give price in first letter. William Hemrick, Route 1, Terra Alta, West Virginia 26764.

WANTED: Transducer base for Atwater Kent Type H horn speaker. Ronald Kramer, 199 E. St. #215, Lake Oswego, Oregon 97034.

HELP: NEED PARTS or entire loop assembly for Radiola Super VIII console in any condition. Robert Lozier, 318 E. Houston, Monroe, N. C. 28110.

WANTED: ZENITH Radios, early TV's, phones, signs, other Zenith products. Walter D. Holliday, 119 W. St. Charles Rd., Lombard, Ill. 60148.

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TUBE LIST No. 9 - all prices subject to change without notice.

HOW TO ORDER:
(1) Make all checks or money orders payable to J.W.F. Puett.
(2) Please state whether new or used tubes are desired and whether a reduced-price used tube is desired when a new tube is out of stock. REFUNDS are mailed with your invoice for out-of-stock tubes, or when, by customer request, a used tube is substituted for an out-of-stock new tube.
(3) All orders are shipped parcel post - no C.O.D. INCLUDE 15% FOR POSTAGE & HANDLING. INSURANCE RATES ARE 30¢ for orders under $50.00. TEXAS RESIDENTS ADD 5% STATE SALES TAX. MINIMUM ORDER $3.00.

ALL TUBES ARE THOROUGHLY TESTED on a mutual conductance tube checker before shipment. CUSTOMER SATISFACTION GUARANTEED -- If you are not satisfied with your order for any reason, tubes may be returned within ten days for refund or replacement with exception of tubes which are shorted or have open filaments. It will be assumed that returned tubes with open filaments or shorts were damaged in shipment. Shipping damage claims will be handled promptly through the post office on insured orders. Puett Electronics assumes no liability for orders which are not insured, and no liability beyond that which is covered by postal insurance.

IN TABLES 1,4 & 6 THE SYMBOL n INDICATES THAT A TUBE IS AVAILABLE NEW AND THE SYMBOL u INDICATES THAT IT IS AVAILABLE USED.

TABLE 1 - OLDER TYPE-NUMBER TUBES - prices listed for new tubes used tubes are half new price

0	u	$4.	5Z3	nu	$2.	6ZY5	nu	$3.	14C5	n	$3.	55	n	$3.
1A3	n	$3.	5Z4	nu	$2.	7A4	nu	$3.	14C7	n	$3.	56	nu	$3.
1A4	nu	$3.	6A3	n	$3.	7A5	n	$3.	14F7	n	$3.	57	u	$3.
1A5	u	$3.	6A4	nu	$4.	7A6	nu	$3.	14F8	n	$3.	58	u	$3.
1A6	n	$3.	6A5	n	$3.	7A7	nu	$3.	14H7	n	$3.	59	n	$3.
1A7	nu	$2.	6A6	nu	$3.	7A8	nu	$3.	14J7	nu	$3.	70A7	n	$3.
1B4	n	$2.	6A7	nu	$4.	7AF7	nu	$3.	14N7	n	$3.	70L7	nu	$3.
1B5	u	$3.	6A8	nu	$3.	7AG7	nu	$3.	14Q7	nu	$3.	75	nu	$3.
1C5	nu	$3.	6B4	nu	$4.	7AK7	u	$3.	14W7	n	$3.	76	nu	$3.
1C6	n	$3.	6B5	nu	$4.	7B4	nu	$3.	14X7	n	$3.	77	nu	$3.
1C7	u	$4.	6B6	nu	$4.	7B5	nu	$3.	15	u	$5.	78	nu	$3.
1D5	u	$4.	6B7	nu	$4.	7B6	nu	$3.	19	nu	$3.	79	nu	$3.
1D8	nu	$4.	6B8	nu	$3.	7B7	u	$3.	24A	nu	$3.	80	nu	$2.
1E5	u	$3.	6C5	nu	$2.	7B8	nu	$3.	25A6	n	$3.	81	u	$5.
1E7	n	$3.	6C6	nu	$3.	7C5	nu	$3.	25A7	nu	$3.	82	u	$3.
1F4	n	$3.	6C7	n	$3.	7C6	u	$3.	25B6	u	$3.	83	n	$3.
1G4	nu	$3.	6C8	nu	$3.	7C7	nu	$3.	25C6	u	$3.	84	nu	$3.
1G5	u	$3.	6D6	nu	$3.	7B6	u	$3.	25L6	nu	$2.	85	nu	$3.
1G6	u	$2.	6D7	n	$3.	7E7	nu	$3.	25S	u	$3.	89	n	$3.
1H4	u	$3.	6E6	n	$3.	7F7	nu	$3.	25Z5	nu	$2.	117-		
1H5	nu	$3.	6E7	u	$3.	7F8	nu	$3.	25Z6	nu	$2.	L7	nu	$4.
1H6	nu	$2.	6F5	nu	$3.	7G7	u	$3.	26	u	$4.	117-		
1LA4	n	$3.	6F6	u	$3.	7H7	u	$3.	26A6	n	$3.	Z6	nu	$3.
1LA6	nu	$3.	6F7	nu	$5.	7J7	n	$3.	26A7	nu	$3.	9002	n	$3.
1LB4	u	$3.	6F8	nu	$2.	7K7	u	$3.	27	u	$3.	9003	n	$3.
1LC5	n	$3.	6G6	nu	$3.	7L7	nu	$3.	28D7	nu	$3.	VT52	u	$4.
1LC6	n	$3.	6H6	nu	$2.	7N7	nu	$3.	30	u	$3.	XXB	n	$3.
1LD5	nu	$3.	6J5	nu	$3.	7Q7	nu	$3.	31	nu	$3.	XXFM	u	$3.
1LE3	n	$4.	6J7	nu	$3.	7R7	n	$3.	32	n	$3.	XXL	nu	$3.
1LF3	n	$4.	6J8	u	$3.	7S7	nu	$3.	32L6	u	$2.			
1LG5	n	$3.	6K5	nu	$3.	7V7	nu	$3.	32L7	n	$3.	WATCH		
1LH4	nu	$3.	6K6	nu	$3.	7X6	n	$3.	33	n	$3.	THIS		
1LN5	nu	$3.	6K7	nu	$3.	7X7	u	$3.	34	nu	$3.	COLUMN		
1N5	nu	$3.	6K8	nu	$3.	7Y4	nu	$3.	35	u	$3.	FOR		
1P5	nu	$3.	6L5	n	$3.	7Z4	nu	$3.	35Y4	u	$2.	DELETIONS		
1Q5	nu	$2.	6L6	nu	$3.	12A7	nu	$3.	35Z3	nu	$2.	AND		
1V	n	$4.	6L7	nu	$3.	12A8	u	$3.	36	u	$3.	ADDITIONS		
2A3	nu	$5.	6N5	n	$3.	12B7	u	$3.	37	u	$3.	EACH		
2A4	nu	$4.	6N6	nu	$3.	12B8	u	$3.	38	nu	$3.	MONTH.		
2A5	u	$3.	6N7	nu	$3.	12C5	nu	$3.	39	nu	$3.			
2A6	nu	$3.	6P5	nu	$3.	12C8	nu	$3.	41	nu	$3.			
2B7	nu	$3.	6Q7	nu	$3.	12F5	n	$3.	42	nu	$3.			
3C6	n	$3.	6R7	u	$3.	12J5	nu	$3.	43	nu	$3.			
3LF4	n	$3.	6S7	nu	$3.	12J7	nu	$3.	44	nu	$3.			
3Q5	u	$2.	6S8	n	$3.	12K7	nu	$3.	45	u	$4.			
5R4	u	$2.	6T7	u	$3.	12K8	nu	$3.	46	nu	$4.			
5T4	nu	$2.	6T8	n	$2.	12Q7	nu	$3.	47	nu	$5.			
5U4	nu	$2.	6U6	nu	$3.	12Z3	u	$3.	48	n	$5.			
5V4	nu	$2.	6U7	u	$4.	14A4	n	$3.	49	n	$4.			
5W4	nu	$2.	6V6	nu	$2.	14A7	u	$3.	50A5	nu	$2.			
5X4	nu	$2.	6V7	nu	$3.	14B5	n	$3.	50C6	n	$2.			
5Y3	nu	$2.	6Y6	nu	$2.	14B6	nu	$3.	50X6	nu	$3.			
5Y4	nu	$2.	6Z4	nu	$2.	14B8	n	$3.	51	u	$3.			

TABLE 2 - OLD STYLE GLASS ENVELOPE TUBES
all are used, thoroughly tested
Tube type numbers are listed under manufacturers names.

Ace:		Cunningham:		Magestic:		Philco:		Radiotron:		Sylvania:	
X-224	$3.	C324	$4.	G27	$3.	24	$3.	UX222	$4.	SY224	$4.
Arcturus:		CX326	$4.	G35S	$3.	26	$4.	UY224	$4.	SY227	$3.
(blue glass)		C327	$3.	G45	$4.	27	$3.	UX226	$4.	SX280	$2.
No. 27	$5.	CX332	$4.	National		36	$3.	UX227	$3.	Tung Sol:	
No. 51	$5.	CX345	$4.	Union:		37	$3.	231	$4.	24	$3.
Crosley:		56	$3.	NY224	$4.	42	$3.	35	$2.	Wizard:	
56	$3.	CX371	$5.	39	$2.	71A	$5.	UX245	$4.	226	$4.
Ken Rad		80	$2.	Perryman:		80	$2.	56	$3.		
UX245	$4.	CX380	$3.	PA-224	$4.			71A	$5.		
56	$3.							UX71A	$5.		
		212F used 15.00						UX280	$2.		
		852 used 15.00						UX281	$5.		

WATCH THIS TABLE EACH MONTH FOR ADDITIONS AND DELETIONS.

TABLE 3 - TUBE COLLECTOR SPECIALS

Radiotron:		Cunningham:		Majestic:	
10 used	$5.00	CX350 used	$6.00	A.P.(rectifier) used	$5.00
WX12 used	$7.00	De Forest		Raytheon:	
UX200 new	$9.00	Audion:		B-H (rectifier) used	$5.00
used	$5.00	450 used	$6.00	BR (rectifier) used	$5.00
UX240 used	$5.00			VISITRON (photo cell) new	$5.00

WATCH THIS TABLE EACH MONTH FOR DELETIONS AND ADDITIONS

TABLE 4 - MORE RECENT TUBE TYPES - prices listed for new tubes used tubes are half new price

0A2	n	$2.	6AT6	nu	$2.	12A5	nu	$3.	35Z5	nu	$2.	1629	u	$3.
0A3	u	$2.	6AU6	nu	$2.	12A6	nu	$3.	35Z6	nu	$3.	1633	u	$2.
0B3	u	$2.	6AV6	nu	$2.	12AT6	nu	$2.	40Z5	u	$3.	1634	u	$2.
0C3	nu	$2.	6BA6	nu	$2.	12AT7	u	$2.	45Z3	n	$3.	1635	u	$2.
0D3	nu	$2.	6BE6	nu	$2.	12AU6	nu	$2.	45Z5	nu	$3.	2050	nu	$3.
0Y4	n	$3.	6BJ6	nu	$2.	12AU7	nu	$2.	50B5	nu	$2.	2051	nu	$3.
0Z4	nu	$3.	6C4	nu	$2.	12AV6	nu	$2.	50C5	nu	$2.	5686	n	$2.
1L4	n	$4.	6J6	nu	$2.	12BA6	nu	$2.	50L6	u	$2.	5691	n	$2.
1L6	n	$5.	6S4	n	$2.	12BE6	nu	$2.	50Y6	nu	$3.	CK-		
1R5	nu	$2.	6SA7	nu	$3.	12L6	nu	$3.	50Y7	nu	$3.	5703	u	$2.
1S4	n	$1.	6SB7	nu	$3.	12SA7	nu	$2.	117-			5749	u	$2.
1S5	nu	$2.	6SC7	nu	$2.	12SC7	n	$3.	Z3	nu	$3.	5751	nu	$2.
1T4	nu	$2.	6SD7	nu	$3.	12SF5	n	$2.	117-			5814	n	$2.
1T5	nu	$2.	6SF5	n	$2.	12SF7	n	$2.	Z4	u	$3.	5879	n	$2.
1U5	nu	$2.	6SF7	n	$2.	12SG7	nu	$3.	807	nu	$5.	5881	u	$4.
2C26	u	$3.	6SG7	nu	$3.	12SH7	n	$3.	879	n	$3.	5992	n	$2.
2X2	n	$3.	6SH7	nu	$2.	12SJ7	nu	$3.	884	n	$5.	6080	u	$4.
3A4	nu	$2.	6SJ7	nu	$2.	12SK7	nu	$2.	930	n	$3.	6842	n	$2.
3A5	nu	$2.	6SK7	nu	$2.	12SL7	nu	$3.	950	u	$4.	6973	n	$2.
3A8	n	$3.	6SL7	nu	$2.	12SN7	nu	$2.	955	n	$4.	7193	u	$2.
3Q4	nu	$2.	6SN7	nu	$1.	12SQ7	nu	$2.	958	u	$4.	VR90	nu	$2.
3S4	nu	$2.	6SQ7	nu	$2.	12SR7	nu	$3.	CK-			VR-		
3V4	nu	$2.	6SR7	nu	$2.	12V6	nu	$3.	1005	u	$3.	105	n	$2.
6AB4	nu	$2.	6SS7	nu	$2.	12W6	n	$2.	E1158	u	$3.	VR-		
6AB7	nu	$2.	6SU7	n	$2.	12X4	n	$2.	1201	u	$3.	150	nu	$2.
6AC5	nu	$2.	6SV7	n	$2.	19T8	nu	$3.	1203	u	$3.			
6AG7	nu	$3.	6W6	u	$2.	35A5	nu	$3.	1232	u	$3.	WATCH FOR		
6AK5	nu	$2.	6X4	nu	$2.	35C5	nu	$2.	1273	u	$3.	ADDITIONS &		
6AL5	nu	$2.	6X5	nu	$1.	35L6	nu	$2.	1612	u	$3.	DELETIONS		
6AL7	u	$2.	6Y5	u	$2.	35W4	u	$2.	1625	u	$4.	EACH		
6AQ5	nu	$2.	6Y7	u	$2.	35Z4	nu	$2.	1626	u	$3.	MONTH.		

TABLE 5 - BALLAST TUBES - $3.00 each - all are new

JFD Type A,B & C; K36A; K49B; K80C; K92B; KX49B; L55B; 2B14; 3H7; 4P45; 7H11; 40A1; 100-77; 100-79; 165R; 165R4; 185R4; 250R; 6092A. We have one old style Duresite 110 used, all others new.

TABLE 6 - TV AND MISC. TYPES - tubes in this table are priced at — $2.00 new, $1.00 used * * * * * * * * * * * * * * * * * * *

1AX2	n	3BN6	nu	4BQ7	n	5AZ4	n	5T8	nu	6AM8	u	6AX4	nu	
1B3	nu	3BU8	nu	4BZ6	u	5B8	n	5U8	u	6AN8	nu	6AX5	n	
1D21	n	3BY6	n	4BZ7	u	5BQ7	n	5V6	u	6AQ7	nu	6BA7	n	
1X2	nu	3BZ6	nu	4CB6	nu	5BR8	n	5X8	n	6AR5	n	6BC5	nu	
2BN4	nu	3CB6	nu	4CS6	n	5CG8	nu	6AC5	nu	6AR6	u	6BC7	u	
2CY5	u	3CS6	nu	4DK6	u	5CL8	nu	6AC7	nu	6AS5	nu	6BD6	n	
2GK5	u	3DK6	u	4DT6	n	5CM8	n	6AD6	n	6AS7	u	6BF5	n	
2W3	nu	3DT6	nu	4EJ7	u	5CQ8	n	6AD7	n	6AS8	n	6BF6	n	
3AL5	u	3DZ4	u	4HT6	u	5DH8	u	6AE6	n	6AT8	nu	6BG6	u	
3AU6	nu	3ER5	n	4JC6	u	5FQ7	u	6AF6	nu	6AU4	u	6BH6	n	
3AV6	n	3GK5	n	5AM8	u	5GX7	u	6AH4	n	6AU5	nu	6BH8	u	
3B2	u	4AU6	u	5AN8	nu	5J6	n	6AH6	n	6AU8	nu	6BK5	nu	
3BA6	u	4AV6	u	5AQ5	nu	5KE8	n	6AJ5	n	6AV5	u	6BK7	nu	
3BC5	u	4BN6	u	5AT8	nu	5LJ8	u	6AK6	n	6AW8	nu	6BL7	u	
6BN4	nu	6CG7	nu	6CU8	nu	6EM8	n	10DE7	n	12BH7	nu	17DQ6	nu	
6BN6	nu	6CG8	n	6CX8	u	6ES8	u	10JY8	n	12BK5	n	19AU4	n	
6BQ5	u	6CK4	u	6CY5	u	6EZ5	n	12AD6	n	12BQ6	u	19BG6	n	
6BQ6	nu	6CL6	n	6CY7	u	6GK6	n	12AF3	n	12BY7	nu	25AC5	n	
6BQ7	nu	6CL8	u	6DZ5	u	6JZ8	n	12AH7	nu	12BZ7	n	25AV5	n	
6BW8	n	6CM6	n	6DA4	u	6ME10	u	12AJ6	u	12CA5	nu	25AX4	nu	
6BX7	u	6CM7	nu	6DB5	u	6U8	nu	12AL5	u	12DQ6	u	25BK5	n	
6BY5	nu	6CM8	n	6DE6	u	6V3	n	12AV7	nu	12DT5	u	25BQ6	nu	
6BY6	u	6CN7	u	6DN7	n	6V4	n	12AX4	nu	12EG6	u	25CD6	n	
6BY8	u	6CQ8	n	6DQ6	n	6W4	nu	12AX7	nu	12EK6	n	25DN6	n	
6BZ7	n	6CR6	n	6DT6	u	7AU7	nu	12AZ7	u	12FX5	n	25W4	n	
6CB5	u	6CS6	nu	6DX6	n	8AW8	nu	12BA7	n	13DE7	u	35EH5	u	
6CB6	nu	6CS7	u	6EA7	n	9AU7	n	12BD6	n	13DR7	u	50EH5	u	
6CD6	n	6CU6	n	6EA8	u	9BR7	u	12BF6	n	17AX4	nu			

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